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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,631	06/26/2006	Thomas Gessner	292331US0PCT	6111

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EXAMINER	
MCDOWELL, BRIAN E	

ART UNIT	PAPER NUMBER
4161	

NOTIFICATION DATE	DELIVERY MODE
10/16/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/584,631	GESSNER ET AL.	
	Examiner	Art Unit	
	BRIAN MCDOWELL	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/28/2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/24/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

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DETAILED ACTION

Status of Claims

Claims 1-7 are pending from the previous application, wherein claims 1-4 and 6-7 have been amended. Claims 8-17 are new claims.

Status of Claim Objections

Applicant's amendment of claims 3 and 4, see Remarks, filed 8/28/2008, with respect to the objection set forth in the Non-Final Office Action mailed 6/5/2008, has been fully considered and the objection has been withdrawn.

Status of Rejections

35 USC § 112 (2nd Paragraph)

Applicant's amendment of claims 1-7, see Remarks, filed 8/28/2008, with respect to the Non-Final Office Action mailed 6/5/2008 has been fully considered and the rejection under 112 2nd Paragraph has been withdrawn.

35 USC § 103

Applicant's arguments and amendment of claims 1-7, see Remarks, filed 8/28/2008, with respect to the Non-Final Office Action mailed 8/28/2008 have been fully considered and the rejection under USC 103 has been withdrawn.

New Objections and Rejections

Claim Objections

Claim 1 is objected to because of the following:

The term "heterycyclic" is spelled incorrectly. The correct spelling is "heterocyclic".

Please correct.

Claim 10 is objected to because of the following:

The phrase "wherein the converting is conducted..". A more appropriate phrase would be "wherein the process is carried out at".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

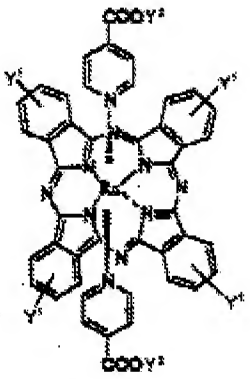
Claims 1-8 and 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brach *et al.* (J. Heterocyclic Chem.) in view of Tamura *et al.* (EP 0663427- mentioned in IDS) and Paidi *et al.* (JP 2003040892 A).

Instant claims 1-8 and 11-17 recite a process for preparing metal-free phthalocyanines of formula I that employ an alkali metal hydroxide.

Brach *et al*. discloses a process for preparing metal-free phthalocyanines. Furthermore, Brach *et al*. teach that these metal-free phthalocyanines can be prepared by heating a phthalonitrile and ammonia in an inert organic solvent (see pg 1404, first paragraph). Representative phthalonitriles used in this process were unsubstituted and substituted. However, Brach *et al*. does not teach this process using an alkali metal carbonate, alkali metal hydroxide, or combinations thereof. Additionally, 5 or 6 membered saturated heterocycles attached to the phthalocyanine ring are not specifically disclosed in this document.

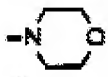
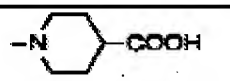
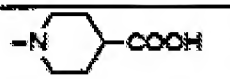
Tamura *et al*. teach that high purity metal-free phthalocyanines can be obtained using a similar described process to that of Brach *et al*. More specifically, the document states that partially hydrogenated alkali metal phthalocyanines are obtained by taking a phthalonitrile and heating it in an inert organic solvent in the presence of amines such as ammonia and an alkali metal source such as sodium or potassium hydroxide. The document also mentions that the alkali metal source may be used either alone or in appropriate mixtures (see page 7, lines 13-35). Subsequently, the phthalocyanines are contacted with a hydrogen-substituting agent such as methanol to give the metal-free compound (see page 8, lines 4-7).

Paidi *et al*. teach ruthenium phthalocyanines. Furthermore, Paidi *et al*. teach ruthenium phthalocyanines that contain 6-membered heterocycles (see below and page 6, equation 4), their preparation, and derivatives.



... (4)

＊ ＊【表１】

試料番号	Y^1	Y^2
1	-H	-H
2	-H	$-CH_2CH_3$
3	$-C(CH_3)_3$	-H
4	$-C(CH_3)_3$	$-CH_2CH_3$
5		-H
6		$-CH_2CH_3$
7		-H
8		$-CH_2CH_3$
9		-H
10		$-CH_2CH_3$

In summary, applicant is simply taking a component (the alkali metal hydroxide) from a well described synthetic process for metal-free phthalocyanines and applying it to the Brach procedure.

Therefore, it would be obvious for one of ordinary skill in the art at the time the invention was made to modify the process described by Brach *et al*. (while keeping the ammonia

constant, using similar solvents and temperatures), and add an alkali metal hydroxide or combinations thereof, to the reaction mixture and have a reasonable expectation of success in obtaining metal free phthalocyanines. The above synthetic process by Brach *et al*. was mentioned to be amenable to both unsubstituted and substituted phthalonitriles, however the inventors were not motivated at the time to synthesize compounds containing 5 or 6 membered saturated heterocycles. Applicant mentioned that the process of Brach was employed with large bulk substituents and only gave a yield of 37%. However, applicant only provides a crude yield of 70% in the specification after employing the claimed procedure (see page 6, lines 21-22). Applicant provides no information on the purified yield after recrystallization. Therefore, a statement that the claimed process is superior to the Brach process can not be reasonably justified.

In addition, the unique feature claimed by applicant (wherein a 5 or 6 membered saturated heterocycle is attached to the phthalocyanine ring) is not necessarily novel as evidenced by JP 2003040892 A.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brach *et al*. (J. Heterocyclic Chem.) in view of Tamura *et al*. (EP 0663427-mentioned in IDS) and Paidi *et al*. (JP 2003040892 A) and Rintelman (U.S. Patent 2485168).

Brach, Tamura, and Paidi teach what was mentioned previously.

Rintelman discloses a process for preparing metal-free phthalocyanines. Rintelman furthermore teaches that metal-free phthalocyanines can be prepared in a similar manner as above with unsubstituted and substituted phthalonitriles; but with the addition of potassium carbonate. (see col. 2, lines 35-37).

The process described by Brach is analogous to the one described by Rintelman. Both processes employ similar starting materials (phthalonitriles), an inert solvent, and amine bases to give similar products. Rintelman describes an improvement to his process by the addition of the alkali metal carbonate and a small amount of ethylene glycol. Therefore, it can be assumed that alkali metal carbonates and alkali metal hydroxides can be considered equivalents in this process. Thus, based on the teaching by Tamura, one of ordinary skill in the art would have a reasonable expectation of success in adding either one or both the reagents in combination (alkali metal hydroxides and their carbonates) to a similar process such as the one described by Brach in obtaining the phthalocyanine.

Thus applicant's claims are obvious and therefore rejected under 35 U.S.C. 103.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN MCDOWELL whose telephone number is (571)270-5755. The examiner can normally be reached on Monday-Thursday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this a Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James O. Wilson/
Supervisory Patent Examiner, Art Unit 1624

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